SPRING PROJECTS UPDATE FOR GROUNDWATER ADVISORY COMMITTEE –JUNE 1, 2006

Four projects related to springs have been underway since last summer. Three UW-led projects in 5 counties (see map on p. 2) are funded by DNR and one Wisconsin Wildlife Federation project is supported by a Joyce Foundation grant. They are being coordinated by DNR and several meetings have been held to facilitate coordination and cooperation between the projects. The WWF project is taking the lead on setting up a statewide database of spring information collected from these projects. That project will be described in detail at this meeting and so is not described here.

Mapping and Characterization of Springs in Brown and Calumet Counties (Kevin Fermanich, Michael Zorn, Ron Stieglitz, and Chris Waltman all at UW–Green Bay) [project areas are horizontally hatched counties on p.2]
Initial survey, recognizance and inventory were completed in September, 2005. After 30-40 potential spring sites were visited, 8 springs were found. The highest flow is about 1/3 cfs. Sites will be revisited to note any changes in discharge. Additional springs may be flowing this year, as there has been significantly more precipitation than in 2005.

Five springs have been selected for more detailed study. Geochemical samples have been taken and more flow measurements have been made. CFC date indicate ages in 20-40 year range. Late-winter snow-melt and spring rainfall have resulted in increased spring discharge this year which, in some cases has made discharge measurements difficult with existing equipment. Attempts to quantify discharge have also been hampered by site disturbance or modifications to the springs. Continuing work will include flow measurements, geochemical analyses, CFC trace-gas samples, characterization of the vegetation, data analysis and GIS mapping.

Identification and characterization of springs in west-central Wisconsin (Katherine Grote, UW-Eau Claire) [project area is vertically hatched county on p.2]
This project is investigating the location, flow rate, and likely recharge area of springs in St. Croix County. It is contributing to the statewide spring database as well as providing data for groundwater modeling in west-central Wisconsin, allowing predictive assessment of the impacts of high capacity wells on spring discharge and providing insight into spring recharge mechanisms. A county-wide survey has found 70 active springs with 7 of them > 1cfs. Location, discharge, temperature, pH, conductivity, photo, surrounding land use, and date were noted for each. Landowners noted that discharges were relatively low in 2005, probably due to below-normal precipitation. Water chemistry samples were collected from the higher-discharge springs.

Assessing the Ecological Status and Vulnerability of Springs in Wisconsin (Dave Zaber, UW Arboretum; Sue Swanson, Beloit College; Ken Bradbury WGNHS; and Dave Hart, WGNHS) [project areas are in diagonally hatched counties on p.2]
The need for a clear understanding of the ecological status of springs is the motivation for this project. A comprehensive springs classification system currently in use in Arizona is being adapted and used to describe springs in the glaciated and unglaciated regions of the

State. The classification system uses physical, biological, and sociocultural characteristics. This should allow assessments of the ecological status of typical springs systems, which is a critical first step in assessing vulnerability to pumping because it provides baseline conditions to which changes can be compared. The project also includes cataloging historical and existing spring resources in Iowa and Waukesha Counties and characterizing a subset of springs in the two counties. Data is being collected in a format compatible with the WWF statewide data layer.